

ENGINEERING EVALUATION

Date: 5/16/18

Project Number: 18-144

Facility Name: Trustile Doors of Iowa

Facility ID: 98-01-006

Engineer: Danjin Zulic

FO: 2

Permit Number(s): 03-A-1027-S2, 03-A-1028-S2, 03-A-1029-S2, 03-A-1030-S2, 03-A-1031-S2, 03-A-1032-S2, 03-A-1033-S2, 03-A-1034-S2, 03-A-1035-S3, 03-A-1036-S1, 04-A-526-S2, 04-A-527-S2, 04-A-528-S2, and 13-A-371-S1

Project Description:

- Trustile Doors of Iowa (Trustile) is a wood door manufacturing facility located in Northwood, IA. The facility, which was previously owned by Woodharbor, manufactures various types of doors for residential and office settings. Trustile submitted an application to lower potential VOC emissions below the Title V major source threshold (100 TPY) and to limit SHAP and THAP emissions below the NESHAP area source thresholds (10 TPY and 25 TPY, respectively). As an area source of HAP, the facility would like to no longer be subject to NESHAP Subpart QQQQ. Previously, any facility subject to a major source NESHAP standard, such as Subpart QQQQ, would not be allowed to get out of the subpart, even if they became an area source of HAP. However, EPA released a memo on this so-called “once in, always in” on January 25, 2018. EPA determined that the “once in, always in” policy is not the intent of the language in the Clean Air Act and is no longer valid. Shortly thereafter, the IDNR management made a decision to follow the EPA guidance and allow companies to take HAP area source limits and get out of any applicable major source NESHAP subparts. Therefore, Trustile is able to get out NESHAP Subpart QQQQ if it takes appropriate and enforceable HAP limits. As a result of this project, this facility is no longer a major source of HAP, no longer a major source for the purposes of Title V, and no longer subject to NESHAP Subpart QQQQ.
- As a result of this project, Trustile does not anticipate an increase in HAP emissions. In fact, as shown in Figure 1, the actual HAP (and VOC) emissions over the past 15 years have not been close to the major source thresholds. There are no concerns that the facility will increase its HAP emissions at this time.

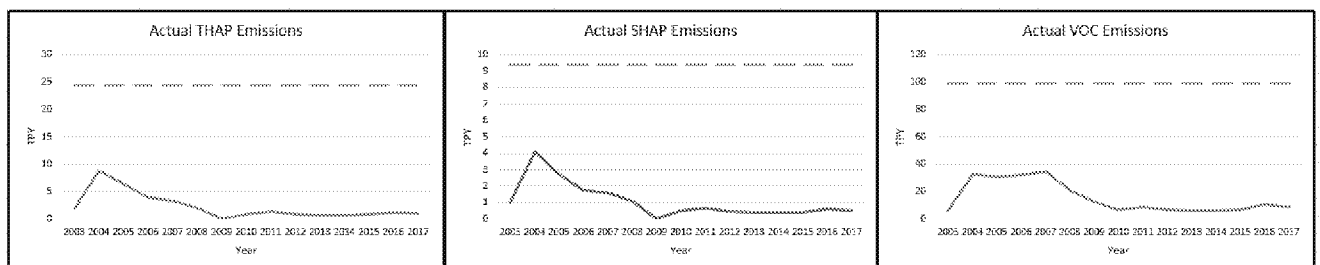


Figure [SEQ Figure * ARABIC]: Actual HAP and VOC Emissions

- Figure 2 shows the facility-wide PTE. As shown in the figure, the facility-wide PTE is below the Title V and PSD major source thresholds. Therefore, this facility is a minor source for the purposes of PSD and Title V at this time.

Emission Point	Emission Unit	Source	Annual Emissions (Tons per Year)									
			PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO	Pb	SHAP	THAP
1	1	Spray Booth	0.89	0.89	0.89							
2	2	Spray Booth	0.89	0.89	0.89							
3	3	Spray Booth	0.89	0.89	0.89			80				
4	4	Spray Booth	0.89	0.89	0.89						9	24
5	5	Spray Booth	0.89	0.89	0.89							
14	14	Adhesive Application						10				
15	15	Putty Application						3				
21	21	Woodworking 1	25.90	25.90	25.90							
22	22	Woodworking 2	25.14	25.14	25.14							
23	23	Woodworking 3	25.14	25.14	25.14							
Various	Various	Pump Rooms										
Total			80.63	80.63	80.63	0.00	0.00	93.00	0.00	0.0000	9.0	24

¹ Emissions from these sources are accounted for in the in Spray Booth permits and recordkeeping.

Figure [SEQ Figure * ARABIC]: Facility-wide PTE

- SPARS data entry: No updates necessary at this time.

SIC/NAICS: 2431/321918

Compliance Status:

- There are no compliance issues at this facility at this time.

Applicability Determination:

- One Source Determination:
 - Is there another operation that is considered part of this facility? No.
- NSR-PSD-NAA:
 - Attainment?: Yes. This facility is located in Northwood.
 - Twenty-eight listed source?: No. This facility manufactures wood doors, which is not a 28-listed source. The major source threshold for the purposes of PSD is 250 TPY per pollutant.
 - PSD nested sources? No.
 - "Major" source? No. As shown in Figure 2, the facility-wide PTE of each pollutant is below 250 TPY. Therefore, this facility is a minor source for the purposes of PSD at this time.
- Title V:
 - "Major" source?: No. The Title V major source thresholds for this facility are 10 TPY for SHAP, 25 TPY for THAP, and 100 TPY for all other criteria pollutants. As shown in Figure 2, the facility-wide PTE for all criteria pollutants is now below the Title V major source thresholds. Therefore, this facility is a minor source for the purposes of Title V at this time.

- 4) NSPS:
 - These emission units are not subject to any NSPS subparts at this time as there are no applicable subparts for their source categories.
 - 5) NESHAP:
 - This facility is of the source category for Subpart QQQQ (*National Emission Standards for Hazardous Air Pollutants: Surface Coating of Wood Building Products*; 40 CFR §63.4680 – §63.4781). However, this facility is not subject because the facility is an area source of HAP at this time. Subpart QQQQ is only applicable to major sources of HAP.
 - This facility is of the source category for Subpart HHHHHH (*National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*; 40 CFR §63.11169 – §63.11180). However, this facility is not subject because the facility does not apply any coating to any metal or plastic surface. Per 40 CFR §63.11170, the facility is not subject to the Subpart.
 - 6) Iowa Administrative Code (IAC):
 - a) 567 IAC 22.1(1) Permit required for construction of any equipment
 - b) 567 IAC 23.4(13) Particulate matter limit
 - c) 567 IAC 23.3(2)"d" Opacity limit
 - d) 567 IAC 25.1(7) Stack testing requirements
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Dispersion Modeling:

- Facility-wide PM₁₀ dispersion modeling was completed in PN 04-283. The predicted concentration was not within 1 SIL of the NAAQS. There are no increases in particulate matter as a result of this project. Therefore, dispersion modeling is not required at this time.
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Compliance Demonstration:

- The facility is required to track actual SHAP and THAP emissions from all non-combustion sources on a rolling 12-month basis. The facility is also required to track VOC material usage from the spray booths and putty application and actual VOC emissions from the adhesive application. The calculated potential particulate matter emissions are below the established emission limits. Therefore, no additional compliance demonstrations are necessary at this time.
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Emission Limits:

- The following emission limits were established:
- Spray Booths 1 – 5:
 - PM – 0.01 gr/scf [567 IAC 23.4(13)]
 - Opacity – 40% [567 IAC 23.3(2)"d"]
 - SHAP – 9.0 TPY, THAP – 24.0 TPY established in this project in order for the facility to become an area source for the purposes of NESHAP
- Pump Vent Rooms 1 – 4:
 - No emission limits established

- Woodworking 1 – 3:
 - PM – 5.91 lb/hr [5.74 lb/hr for woodworking 2 and 3] and 0.01 gr/dscf established in PN 04-283 to limit PTE below the major source threshold for the purposes of PSD. The facility wanted to retain the 0.01 gr/dscf limit from previous permits even though a less stringent limit (0.1 gr/dscf based on the state standard) was proposed. The hourly PTE from each of these baghouses was estimated assuming 0.01 gr/dscf grain loading.
- Adhesive Application:
 - VOC – 10.0 TPY established in this project to limit PTE below the Title V major source threshold
 - SHAP – 9.0 TPY, THAP – 24.0 TPY established in this project in order for the facility to become an area source for the purposes of NESHAP
- Putty Application:
 - SHAP – 9.0 TPY, THAP – 24.0 TPY established in this project in order for the facility to become an area source for the purposes of NESHAP

Operating Limits, Monitoring and Recordkeeping:

- The following operating limits were established:
- Spray Booths 1 – 5:
 - Spray Booth 1 (EU 1), Spray Booth 2 (EU 2), Spray Booth 3 (EU 3), Spray Booth 4 (EU 4), and Spray Booth 5 (EU 5) shall not use more than 16,000 gallons of surface coating materials (stain, primer, sealer, solvent, etc) per rolling 12-month period. The VOC content of any surface coating material used in these spray booths (EU 1, 2, 3, 4, and 5) shall not exceed 10.0 pounds per gallon. The solids content of any surface coating material used in these spray booths (EU 1, 2, 3, 4, and 5) shall not exceed 27.7 pounds per gallon. These limits were established to limit the VOC and PM emissions from these sources.
 - The owner or operator shall not emit more than 9.0 tons of single HAP from all non-combustion sources at this facility per rolling 12-month period. The owner or operator shall not emit more than 24.0 tons of total HAP from all non-combustion sources at this facility per rolling 12-month period. These limits were established to limit HAP emissions below the area source HAP limits.
 - The owner or operator shall maintain the Dry Filters according to the facility's maintenance schedule. These limits were established to ensure that the control equipment is functioning properly.
- Pump Vent Rooms 1 – 4:
 - Paint is mixed in these rooms. The VOC and HAP emissions from these rooms is accounted in the spray booth permits. Therefore, no operating limits are required at this time.
- Woodworking 1 – 3:
 - The pressure drop across the Baghouses shall be between 0.5 and 10.0 inches of water. The owner or operator shall maintain the Baghouses according to the manufacturer's specifications and maintenance schedule. These limits were established to ensure that the control equipment is functioning properly.
- Adhesive Application:
 - The owner or operator shall not emit more than 10.0 tons of VOC from the Adhesive Application Process (EU 14) per rolling 12-month period. This limit was established to limit VOC emissions below the Title V major source threshold.
 - The owner or operator shall not emit more than 9.0 tons of single HAP from all non-combustion sources at this facility per rolling 12-month period. The owner or operator shall not emit more than 24.0 tons of total HAP from all non-combustion sources at this facility per rolling 12-month period. These limits were established to limit HAP emissions below the area source HAP limits.

- Putty Application:
 - The Putty Application Process (EU 15) shall not use more than 900 gallons of material per rolling 12-month period. The VOC content of any material used in the Putty Application Process (EU 15) shall not exceed 6.73 pounds per gallon. This limit was established to limit VOC emissions below the Title V major source threshold.
 - The owner or operator shall not emit more than 9.0 tons of single HAP from all non-combustion sources at this facility per rolling 12-month period. The owner or operator shall not emit more than 24.0 tons of total HAP from all non-combustion sources at this facility per rolling 12-month period. These limits were established to limit HAP emissions below the area source HAP limits.

Emission Calculations:

- Trustile will track actual HAP emissions from all non-combustion sources at this facility. The facility will also track actual VOC emissions from the adhesive application process. Potential VOC and PM emissions from the spray booths were calculated using the solids/VOC content and material usage limits. Potential VOC emissions from the putty application process were calculated using the VOC content and material usage limits. Particulate matter emissions from the woodworking processes were calculated assuming that each of the baghouses is able to meet a grain loading limit of 0.01 gr/dscf. This calculation methodology was used in previous projects in lieu of estimating emissions using other more onerous methodologies. The facility is required to maintain the pressure drop across each of the baghouses between 0.5 and 10.0 inches water column to ensure that the baghouses are operating properly.

Draft Permits:

Draft Permit(s) sent to Facility?	Yes
Draft Permit(s) sent to Title V? currently being reviewed for this facility.	No. There is no Title V application

Significant Comments:

Attachments to Evaluation:

- ☒ **Emission Calculations**
- ☒ **Facility Wide Emissions Calculations**
- ☐ **Dispersion Modeling Memo**
- ☒ **Correspondence (emails or letters)**
- ☒ **Phone log(s)**
- ☐ **Process Research**
- ☐ **Timeline**
- ☐ **Regulations**
- ☐ **Stack Test(s)**
- ☒ **Other Supporting Documentation**
- ☐ **Compliance Work Request**